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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/992,313	11/19/2001	Halg	01- 1701	7362

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EXAMINER

CROSS, LATOYA I

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/992,313	HALG	
	<b>Examiner</b>	<b>Art Unit</b>	
	LaToya C. Younger	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15, 17, 22-29 and 44-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17, 22-29 and 44-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This Office Action is in response to Applicants' amendments filed on January 6, 2005. Claims 1-15, 17, 22-29, 44-47 are pending.

#### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 10 and 26 are rejected to under 37 CFR 1.75(c) as being in improper form. Claims 10 and 26 are dependent on later claim 47, which is improper. Applicants should rewrite the claim so that claims 10 and 26 do not depend on claims recited later on (i.e. add new claims 48 and 49, which have the limitations recited in claims 10 and 26, respectively, but are dependent on claim 47).

#### *Claim Rejections - 35 USC § 103*

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-15, 17, 22-25, 28, 29, 44-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,061,639 to Lung et al in view of US Patent 5,320,969 to Bauer et al.

Lung et al disclose a method for determine the volume of liquid in a container. The method involves providing a first well having a known volume or colorimetric reagent of a known concentration. A volume of the colorimetric reagent is dispensed into a second well. In other words, a portion of the colorimetric reagent is separated from the first well and introduced into a second well. The absorbance of the reagent in each well is measured and the actual volume of the separated portion of the colorimetric reagent is calculated by correlating the known volume and concentration with the

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absorbance of the separated portion. See col. 3, lines 14-29. Lung et al further disclose adding a diluent to the colorimetric reagent to maintain the stability of the reagent (col. 4, lines 39-40). The colorimetric reagent disclosed by Lung et al comprises cobalt sulfate or potassium dichromate.

Lung et al differs from the instantly claimed invention in that Lung et al use a different colorimetric reagent than the chromophoric indicator and metal ion complex used in the instant invention.

Bauer et al teach a reagent composition comprising a complex formed from a polyvalent metal ion having a valence of at least two and an indicator capable of interacting with the metal ion to provide a polyvalent metal ion-indicator complex (col. 4, lines 50-58). As the polyvalent metal ion, Bauer et al teach using ferric and ferrous ions (col. 11, lines 41-50). As indicators, Bauer et al teach using bathophenanthroline, among others (col. 12, line 54 – col. 13, line 13). Bauer et al teach that the polyvalent metal ion-indicator complex has an advantage of undergoing a color transition that does not involve competing chemical or physical interaction, such as pH change or interactions with other components of a test sample (col. 4, line 68 – col. 5, line 3). It would have been obvious to one of ordinary skill in the art to substitute the colorimetric reagent of Lung et al for the polyvalent metal ion-indicator complex of Bauer et al to provide a reagent resulting in enhanced color transition independent of the sample condition (i.e. pH) and without interfering with other substances in the sample.

Lung et al also differs from the instant invention in that there is no disclosure of the sequence in which the reagents are added. Lung et al disclose adding the colorimetric reagent to the diluent and measuring the absorbance. There is no disclosure of, for example, adding the reagent to the residue, as opposed to the separated portion or adding the sample to a container already having the reagent. The sequence of the addition of reagents does not appear to have an effect on the method of determine the volume of a liquid itself. In the absence of new or unexpected results, the selection of any order of mixing

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ingredients or performing process steps has been held to be *prima facie* obviousness. See MPEP 2144.04 citing In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) and In re Gibson, 39 F.2d 975, 5 USPQ 230 (CCPA 1930).

***Allowable Subject Matter***

5. Claims 26 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to teach or fairly suggest a method for determining the volume of liquid in a sample, wherein a chromogenic indicator is complexed with an ion and added to the sample at a known concentration, followed by measuring the absorbance of a portion of the sample, whereby beta-diketones are additionally added as an auxiliary ligand.

***Response to Arguments and Declaration Under 37 CFR 1.132***

6. Applicant's arguments filed January 6, 2006 have been fully considered but they are not persuasive.

With respect to the obviousness rejection, Applicants argue that the Bauer et al reference uses the chromophoric indicator to determine specific gravity of a sample, not to determine the volume of a dispensed liquid, as claimed. In response, the Examiner points out that Bauer et al is used solely for its teaching of the indicator ion complexed with specific chromogenic ligands as a chromophoric indicator, hence the use of Bauer et al as a secondary reference. The primary reference, Lung et al discloses the basics of Applicants' claimed method steps, including the step of introducing a known volume of colorimetric reagent. Lung et al, admittedly fails to teach the colorimetric reagent being indicator ions

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complexed with specific chromogenic ligands. Lung et al do, however, teach using colorimetric reagents, such as those that follow Beer's Law (col. 4, lines 28-45). Bauer et al teaches the claimed chromophoric indicator and teaches advantages in using such indicators (i.e. not effected by the outside environment). MPEP 2144.06 states that substitution of equivalents known for the same purpose is obvious. In the instant case, the rejection merely suggests that it is obvious to substitute the chromophoric indicators of Lung et al for those taught by Bauer et al. The Examiner does not agree that the fact that Bauer et al teaches the indicators in the context of determining specific gravity makes the two teaching uncombinable for obviousness purposes.

Applicants' declaration further argues the fact that the Lung method requires two wells that are not needed in the instant method. In response, the Examiner points out that the instant claims contain "comprising" language, which leaves the claims open to additional steps which are not instantly claimed. Applicants' declaration further points out that myriad of chromophoric indicators taught by the Bauer et al reference. In response, the Examiner notes that no particular chromophoric compounds are recited in independent claims 1 and 2, thus, the ordinarily skilled artisan need not pick or choose from the many indicators taught by Bauer et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaToya C. Younger whose telephone number is 571-272-1256. The examiner can normally be reached on Monday-Friday 10:30 a.m. - 8:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER